FINAL ENVIRONMENTAL ASSESSMENT

FOR

DIGITAL MULTIPURPOSE TRAINING RANGE

FORT HOOD, TEXAS

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DRAFT FINDING OF NO SIGNIFICANT IMPACT

DIGITAL MULTIPURPOSE TRAINING RANGE, FORT HOOD, TEXAS

1.0 Name of the Action

Digital Multipurpose Training Range (DMPTR) at Fort Hood, Texas.

2.0 Description of the Proposed Action and Alternatives

The Proposed Action is to construct and operate a DMPTR at Fort Hood. The preferred alternative is to modernize and configure the Multi-purpose Training Range (MPTR) at Brown's Creek by constructing and operating a DMPTR. The new range would support the Clabber Creek Multi-use Range and Jack Mountain Digital Multipurpose Range Complex (DMPRC) within the restricted live-fire area of Fort Hood. A second alternative evaluated was redesigning/constructing the DMPTR at the Brown's Creek MPTR site. The No Action Alternative – not to construct the DMPTR - was also considered.

Two other alternatives were considered but eliminated from full analysis of potential environmental impacts. The first was the construction of the DMPTR at Sugarloaf Range. This alternative was rejected because while Sugarloaf is programmed for a digital upgrade in the future, it cannot be upgraded before Brown's Creek without seriously impairing current training and range improvement plans at Fort Hood. Sugarloaf also did not meet the training requirements for supporting full-scale Combined Arms Live Fire Exercises (CALFEX), and is too far away to support the DMPRC. The second alternative

was to utilize the MPTR at Crittenberger Range. This alternative was rejected because Crittenberger, besides being too far away to support the DMPRC, is the primary training range for Bradley Fighting Vehicle units.

3.0 Summary of Environmental Effect of the Proposed Action

No adverse impacts are anticipated to occur to land use, transportation, socioeconomics, environmental justice, unexploded ordnance, solid and hazardous waste, and aesthetics. Full implementation of best management practices would assist in mitigating soil erosion impacts resulting from the Proposed Action. The Proposed Action would not be anticipated to adversely affect the current surface water quality of Belton Lake. A general storm water construction permit is required if the area disturbed is greater than one acre.

4.0 Conclusion

On the basis of the findings of this EA, no significant impact is anticipated from the Proposed Action on the human environment. A Finding of No Significant Impact is warranted and an Environmental Impact Statement is not required.

_____ _____

VICTORIA BRUZESE Date
COL, EN
Garrison Commander
Fort Hood, Texas

EXECUTIVE SUMMARY

The US Army, Headquarters III Corps and Fort Hood propose to modernize and configure Brown's Creek Range by constructing a Digital Multi-Purpose Training Range (DMPTR) and support facilities within the restricted live-fire area of Fort Hood, Texas. The Proposed Action will include stationary and moving targets for armor and infantry units, breach and trench sites with bunkers, camera towers, an After Action Review site, and maintenance facilities.

Under the No Action Alternative, the DMPTR would not be constructed. Training would continue on current multi-purpose training range complexes. However, the current facilities cannot support current and future standard live-fire training requirements. If this project is not provided, major training shortfalls for the units training at Fort Hood will continue.

One alternative to the Proposed Action would have the range situated at the Brown's Creek site in a different configuration. One alternative to the Proposed Action would result in a take of approximately five acres of golden-cheeked warbler habitat. This habitat loss has been included in the current Biological Assessment for Fort Hood that is being coordinated with the US Fish and Wildlife Service and is not anticipated to result in any mitigation costs. The loss of this habitat should not present an adverse effect to Fort Hood's efforts to manage the golden-cheeked warbler population on the installation. This alternative was rejected because the range would not be as effective for training purposes as the Proposed Action.

Alternatives to the Proposed Action considered but eliminated from further study include constructing the DMPTR at Sugarloaf Range and utilization of Crittenberger Range in lieu of constructing the DMPTR.

The project area is already used for live-fire exercises and the baseline against which long-term potential impacts of the Proposed Action can be compared incorporates insignificant impacts on air and soil. The potential for fuel releases noise, spent casings and bullets is also expected to be insignificant.

The conclusion of this Environmental Assessment is that the preferred alternative would not result in any significant environmental impacts. This Environmental Assessment and supporting documentation has been prepared in accordance with the National Environmental Policy Act of 1969, 42 USC 4321 *et seq.*, and as implemented by Executive Orders 11514 and 119991, Environmental Analysis of Army Actions, 32 CFR Part 651, and the Council on Environmental Quality regulations in 40 CFR Part 6.

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1.0 INTRODUCTION

1.1 Proposed Action Overview

The US Army, Headquarters III Corps and Fort Hood propose to construct and operate a Digital Multipurpose Training Range (DMPTR) and supporting facilities within the restricted live-fire area of Fort Hood, Texas.

1.2 Purpose and Need

The objective is to provide a training range that will support current and future standard instrumented live-fire training requirements for the M1 Abrams series tank or the M2/M3 Bradley Fighting Vehicle (BFV) while preserving the capability to support legacy, non-instrumented systems. This range will process digital information to firing units and the Range Operations Center Command and Control System. The DMPTR will support active Army, National Guard and Reserve units with day and night qualification and field firing training.

1.3 Project Location

The DMPTR will be located within the Fort Hood Live Fire Area on the BCMU, northeast of Brown's Creek (PV 17776375) between the Brown's Creek and Robinette firebreaks in Training Area (TA) 80 (re-designation Land Group 83). The general location of Fort Hood, Texas is depicted in Figure 1.

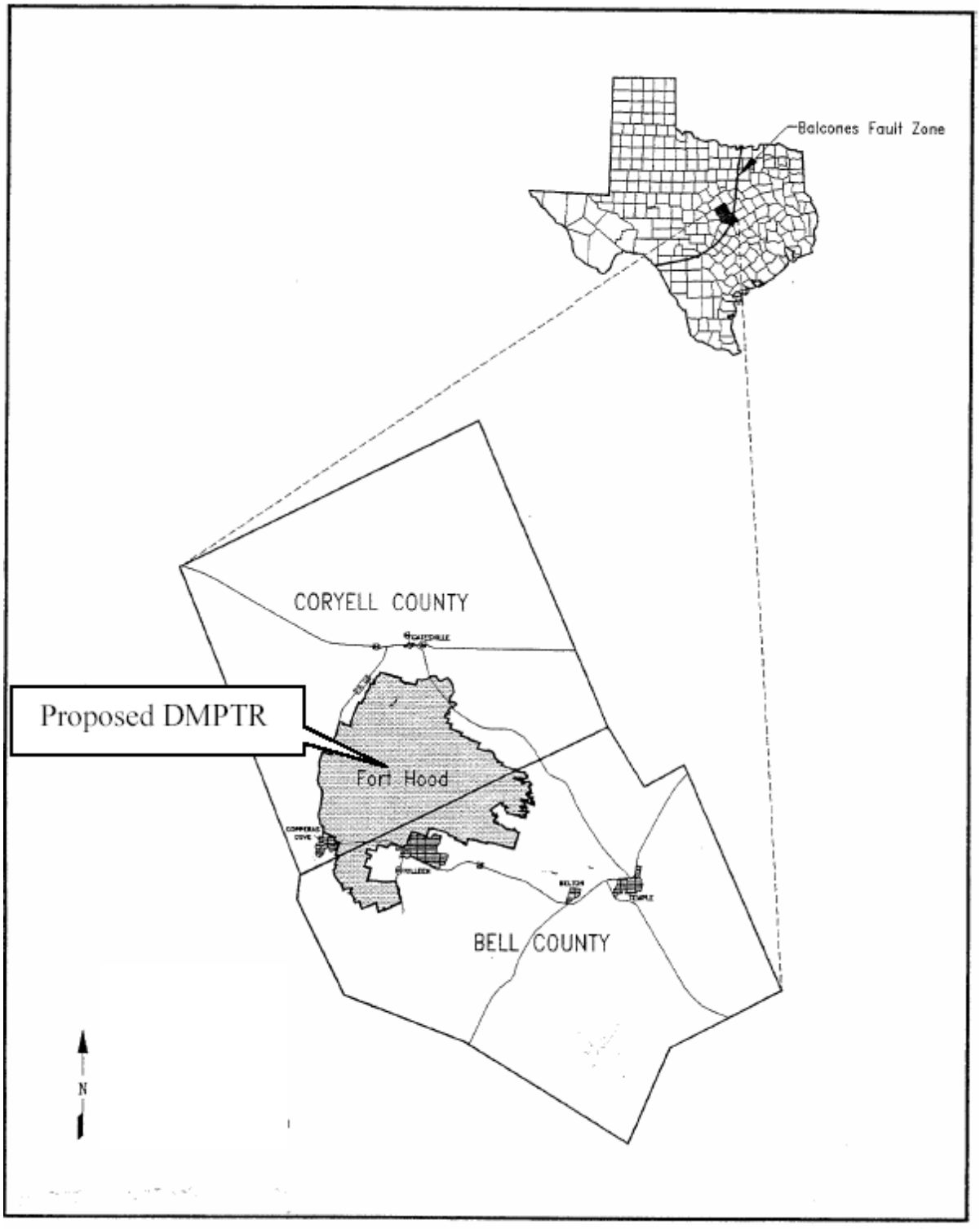

Figure 1: Location of Fort Hood, Texas

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The US Army, Headquarters III Corps and Fort Hood propose to construct a Digital Multipurpose Training Range (DMPTR) within the Live Fire Area of the installation. This complex is used to train and test crews and dismounted infantry squads on the skills necessary to detect, identify, engage and defeat stationary infantry and stationary/moving armor targets in a tactical array. The DMPTR is specifically designed to satisfy the training and qualification requirements for the crews and sections of armor, and infantry units. The DMPTR will complement the existing Digital Multipurpose Range Complex (DMPRC) at Jack Mountain and support combined arms live fire exercises (CALFEX).

In addition to live-fire training, the DMPTR can also be used for sub-caliber and/or laser training devices. This complex also supports dismounted infantry squad tactical live-fire operations either independently of, or simultaneously with, supporting vehicles. Primary features of the DMPTR include:

- 35 Stationary armor targets (SATs)
- 6 Moving armor targets (MATs)
- 105 Stationary infantry targets (SITs - 15 clusters of 7 SITs each)
- 1 Lane (2 course roads) with midpoint crossover capability
- 10 Battle positions per lane

All targets are fully automated, utilizing event-specific, computer-driven target scenarios and scoring. Targets will receive and transmit digital data from the range operations center. The captured data is then compiled and available to the unit during the after action review.

2.2 Alternatives to the Proposed Action

2.2.1 Preferred Alternative

The Preferred Alternative is to modernize and configure the Multi-purpose Training Range (MPTR) at BCMU by constructing a DMPTR for qualification gunnery capable of enhancing the Clabber Creek Multi-use Range and Jack Mountain DMPRC within the restricted live-fire area of Fort Hood. Some existing facilities at BCMU will be renovated for use with the DMPTR. The renovated facilities will include the following:

- Ammo Loading Dock
- Operations/Storage Building
- General Instruction Building
- Overhead shelter for mess

New facilities for the DMPTR will include the following structures:

- Small After Action Review (AAR) building
- Range Operations Tower
- Range Operations Center (ROC)
- Vehicle Instrumentation Dock
- Unit Staging Area

Utilization of a Control tower and the ROC will allow the installation of a control station inside the tower and provide a camera platform that will be able to see the entire range layout. This setup would eliminate the need to have a range safety vehicle escort each vehicle downrange as is current practice.

Fort Hood has requested the following deviation from the standard targetry for the BCMU DMPTR:

- 36 SATs
- 6 MATs
- 105 SITs

These changes to standard DMPTR target numbers will not reduce the training capabilities of this facility and will allow for a more expanded use of the range for target engagements based on Tank and Bradley Qualification, Table VIII. The new targets would be installed within the current surface danger zone (SDZ) of the MPTR. Therefore, although the SDZ will have to be recalculated once the DMPTR is complete, the modifications are not expected to be significant.

2.2.2 No Action Alternative

Under the No Action Alternative, the DMPTR would not be constructed. Training would continue on current non-instrumented multi-purpose training range complexes including BCMU. However, Fort Hood requires a DMPTR to adequately train units in crew level gunnery. The DMPTR is an integral component of the overall range upgrade plan at Fort Hood. In conjunction with the DMPRC constructed at Clabber Creek and Jack Mountain Ranges, the DMPTR is designed to support combined arms live fire exercises (CALFEX) and joint-use operations for brigade-size operations. Without a DMPTR, CALFEX will still be possible at the DMPRC, but at a reduced scale that diminishes the effectiveness of the training and the efficiency of the DMPRC. This results in either ranges with poor utilization or units not receiving their required training to standard.

Current facilities do not adequately support current and future standard live-fire training requirements for the Instrumented M1 series tank or the M2/M3 BFV. The existing training ranges do not support digitally enhanced combat systems featured in digital warfighting operations currently stationed at Fort Hood. Existing ranges are not able to process digital information or provide situational feedback to firing vehicles and units. If a DMPTR is not constructed, major training shortfalls for the Active Army, Army Reserve, and National Guard units training at Fort Hood will continue.

2.2.3 BCMU DMPTR Redesign

One alternative to the Proposed Action is an alternate configuration at the preferred location. This configuration involves taking approximately five acres of endangered species habitat. Removal of five acres of habitat is covered through an agreement coordinated with the US Fish and Wildlife Service (USFWS). Although the Preferred Alternative would require a greater amount of fill material to level out a low-lying area within the preferred location, the DMPTR Redesign Alternative would present a greater impact to TES habitat.

2.3 Alternatives Considered but Eliminated from Further Study

2.3.1 Install the DMPTR at Sugarloaf Multiuse (SLMU)

An alternative to the Proposed Action that was considered but eliminated from further study would install the DMPTR at SLMU in TA 92 (re-designation Live

Fire Area [LF] 88). SLMU currently supports up to BFV Table VII and Table VIII training. This alternative would locate the DMPTR approximately 8.25 miles from the preferred location and would eliminate the impacts of the Preferred Alternative.

Although SLMU is scheduled for a digital upgrade in the future, there are several reasons this alternative was ultimately rejected in favor of the Preferred Alternative:

- SLMU Range is currently a lower priority than the Preferred Alternative
- It is not feasible to move SLMU ahead in the Army Master Range Plan.
- The DMPTR could not be used effectively in conjunction with the DMPRC for combined arms exercises.
- SLMU does not have the required depth to support a CALFEX.

2.3.2 Utilize Crittenberger Multipurpose Range Complex (CMPRC)

Another alternative to the Proposed Action considered but eliminated from further study was the utilization of CMPRC, a MPTR located in TA 75 (re-designation LF 86) approximately 3.25 linear miles from BCMU. CMPRC is the major training range on Fort Hood for BFV Table XII. This alternative differs from the No Action Alternative in that CMPRC would be re-designated to allow for training activities programmed for the Preferred Alternative. As with SLMU, several factors influenced the decision to exclude CMPRC from further consideration, including:

- The ranges are on opposite sides of the live fire area.

- CMPRC is approximately 21 miles away from the DMPRC on existing roads and trails.

- CMPRC is too far away from the Jack Mountain and Clabber Creek DMPRC to adequately support combined arms exercises on the DMPRC.

- BCMU and CMPRC are oriented in antagonistic rather than complimentary angles.

- Utilizing CMPRC would not permit the DMPTR to be used in conjunction with the DMPRC for combined arms exercises

- Utilizing CMPRC eliminates it as a BFV Table XII resource.

- Although this alternative would present fewer impacts to the environment since construction activities would be minimized; it was ultimately eliminated from further consideration.

3.0 AFFECTED ENVIRONMENT

This EA evaluates the potential environmental impacts of the Preferred Alternative and No Action Alternative. It does not evaluate environmental parameters unaffected by implementation of the Preferred Alternative or any of the alternatives, including the No Action Alternative. For example, an existing MPTR is located at the preferred location, and will continue to be used if the No Action Alternative is implemented. Therefore, land use impacts are considered part of the baseline environmental conditions. Potential impacts on transportation, socioeconomics, environmental justice, unexploded ordnance, solid and hazardous waste, and aesthetics will not be evaluated as well. No significant impacts on these resources are anticipated due to the Preferred Alternative or alternatives including the No Action Alternative.

3.1 Biological Resources

The preferred location is in the Cross Timbers and Prairies zone. This zone is typically composed of post oak (*Quercus stellata*) and blackjack oak (*Quercus marilandica*) woodlands with an understory of native grasses and includes rangeland and other open areas where trees are either few in numbers or entirely absent. Animal species that might be expected to inhabit Brown's Creek include aquatic reptiles and amphibians, migrating waterfowl and shorebirds, and a few mammals. It is likely that a number of mammals common to Fort Hood *i.e.*, white-tailed deer, eastern cottontail, raccoon (*Procyon lotor*), fox squirrel (*Sciurus*

niger), black-tailed jack rabbit (*Lepus californicus*),opossum (*Didelphis mephitis*), gray fox (*Urocyon cinereoarganteus*), coyote (*Canus latran*), striped skunk (*Mephitis mephitis*), bobcat (*Lynx rufus*), armadillo (*Dasypus novemcinctus*), deer mouse (*Peromyscus maniculatus*), hispid cotton rat (*Sigmodon hispidus*), and eastern wood rat (*Neotoma floridana*) utilize the area.

More than 300 species of birds live in or migrate through the Fort Hood area. The most widespread and abundant passerine species located on Fort Hood is the cardinal (*Richmondena cardinalis*), which thrives in disturbed areas. Other common avian species are the mourning dove (*Zenaidura macroura*), Carolina chickadee (*Parus carolinensis*), mockingbird (*Mimus polyglottos*), and turkey vulture (*Cathartes aura*).

3.2 Threatened and Endangered Species

No plant species listed or proposed as either threatened or endangered under the Federal Endangered Species Act of 1973 occur in the Proposed Location. Early successional vegetation is essential for the federally endangered black-capped vireo (BCV), while woodlands containing mature Ashe juniper are essential habitat for the federally endangered golden-cheeked warbler (GCW). The BCV and the GCW reside on the installation during the summer breeding season. Figures 2 and 8 in Appendix B shows BCV and GCW TES habitats in the vicinity of the preferred location. A complete description of each species may

be found in the Fort Hood Integrated Natural Resources Management Plan (INRMP), dated 06 June 2000.

3.3 Air Resources

Coryell County is designated in "covered attainment" by the Texas Commission on Environmental Quality (TCEQ) and must comply with restrictions where applicable to reduce impact on non-attainment areas of the state. Fort Hood must control the emissions of National Ambient Air Quality Standards (NAAQS) pollutants in order to meet all applicable Federal, State, and local regulations. Table 1 in Appendix C lists the NAAQS Pollutants.

3.4 Cultural Resources

There are 2,219 archaeological resources within the boundaries of Fort Hood. Ten of these resources are located within the Area of Potential Effect (APE) for Alternative 1 of this project. Since resources within the live fire area are assessed for meeting National Register of Historic Places criteria on a project-by-project basis these resources will require assessment and coordination with the Texas State Historic Preservation Officer.

Two of the archaeological resources are historic and the remaining eight are prehistoric. Features expected at the historic resources are root cellars, building foundations, and scattered artifacts of glass and ceramics. Features expected at

prehistoric resources are burned rock mounds, lithic scatters, and possible diagnostic artifacts. Assessment will determine resource integrity or if damaged, amount of damage and if it reduces the resource's integrity, the number and type of features and artifacts, and whether preserving these features and artifacts will further knowledge of Central Texas history.

3.5 Water Resources

Limited water quality data on Fort Hood streams indicates that large portions of the training areas are subject to excessive sheet and gully erosion. One of the most substantial impacts to surface water resources attributable to Fort Hood is from sedimentation caused by runoff from areas disturbed by vehicle movement and training maneuvers in which vehicles directly cross creek beds.

3.5.1 Surface Water

Brown's Creek is a tributary of Cowhouse Creek, which drains into Belton Lake. Belton Lake's primary purposes are for flood control, recreational fishing and activities, and as a domestic water source for Fort Hood and surrounding municipalities.

3.5.2 Groundwater

Groundwater on Fort Hood is usually first encountered at depths of 50-60 feet, although such supplies may not necessarily be usable. Use of this aquifer by

Fort Hood has now ceased due to regional overuse and excessive drawdown of the aquifer. Potentially sensitive groundwater areas of the Fort Hood region are relatively minor aquifers that receive little use but are also relatively shallow, and so could receive impacts from spills or seepage. The Travis Peak formation is very deep and therefore very unlikely to be polluted in any way by routine operations at Fort Hood including training on ranges.

3.5.3 Jurisdictional Waters of the US and Wetlands

Fort Hood has potential wetlands scattered frequently along the channels and floodplains of the major creeks (particularly the Leon River, House Creek and Cowhouse Creek) and infrequently along the channels of some of the lesser streams. A drainage feature, or gully, located within BCMU is considered jurisdictional waters of the US. This feature drains into Brown's Creek.

3.6 Geological Resources

3.6.1 Geology

The land surface in the area of the DMPTR is part of the Glen Rose formation, which consists of limestone, marl, and sandstone. The marl is a limestone/shale mix that crumbles and readily weathers. It has a low permeability and good load-bearing capabilities. Marl outcrops mainly in the valleys of major streams such as Brown’s Creek. Other significant formations in the general area include the Walnut Clay, and the Comanche Peak formation.

3.6.2 Soils

A variety of soil types and complexes are found in the preferred location of the DMPTR including the Brackett-Topsey association (BtC2), Ekcrant-Rock outcrop complex (ErB), and the Real-Rock outcrop complex (ReF). Figure 3 in Appendix B shows the soils types with an overlay of the DMPTR. A full description of the physical characteristics of these soils is available in the 1985 edition of the Soil Survey of Coryell County published by the Soil Conservation Service. Table 2 in Appendix D summarizes pertinent characteristics of the soil profiles.

3.6.3 Floodplains

Floodplains are found on portions of BCMU. Floodplains do not constitute a resource themselves, but rather a hazard to any development that occur within them. The DMPTR is not located within a floodplain. Figure 4 in Appendix B shows floodplains in the vicinity of the DMPTR.

3.7 Noise

Noise is defined as unwanted sound that interferes with normal human activities. The effect of noise also impacts wildlife populations. The basic unit used to represent given sound levels is the decibel. In order to quantify the intrusiveness of nighttime noise, the Environmental Protection Agency recommends a special type of 24-hour average known as the day-night level or L_{dn}. The L_{dn} is calculated so that noises occurring between the hours of 10 p.m. – 7 a.m. the next morning are treated as if they are 10 decibels more intense.

4.0 ENVIRONMENTAL CONSEQUENCES AND CUMULATIVE IMPACTS

Environmental consequences associated with the Preferred Alternative, BCMU DMPTR Redesign Alternative, and No Action Alternative have been identified. Cumulative impacts, irreversible, and irretrievable commitment of resources are discussed in this chapter. Table 3 in Appendix D summarizes the effects of the Preferred Alternative on the environment.

4.1 Biological Resources

4.1.1 Preferred Alternative

The preferred alternative is to undertake the Proposed Action at BCMU., an active range. Under this Alternative, several existing structures and targetry embankments would be removed, with the cleared sites returning to an undisturbed state. Although new additional structures would be constructed, no net increase in the loss of grassland habitat is anticipated. This is considered an insignificant short- and long-term impact. Although vegetation on intensely utilized training areas has changed from a perennial climax community to a less desirable invasive plant community consisting of early successional perennials and annual plants, this occurs throughout Fort Hood and is not limited to the preferred location. Therefore, the Proposed Action is not likely to contribute significant.

The wildlife species most likely to be impacted by the Preferred Alternative would be displaced species listed in Section 3.1. Once construction is completed, displaced wildlife would be expected to return to their original territories. Since the Proposed Action area is already used for live-fire training exercises, operation of the DMPTR would result in no net increase in noise from vehicles or weaponry that might disturb local wildlife. Long-term impacts to amphibian, reptile, mammal, and bird populations would be insignificant.

4.1.2 No Action Alternative

The No Action Alternative would not change the baseline conditions of the preferred location, therefore, no impacts on biological resources would be expected.

4.1.3 DMPTR Redesign Alternative

Biological resources would be affected in the same manner as the Preferred Alternative. It is possible that the redesign would present more of an impact than the Preferred Alternative if five acres of hillside habitat were removed.

4.1.4 Mitigation Measures

The installation has an Integrated Natural Resources Management Plan that supports mitigation measures for range projects. These mitigation measures are more fully explained in Section 4.2.4.

4.2 Threatened and Endangered Species

4.2.1 Preferred Alternative

The Preferred Alternative would not affect TES habitat. Therefore, the current status of the TES habitat in the preferred location would not change. Once the DMPTR is active, no significant loss of TES habitat due to normal operations is expected. Unforeseen consequences such as fires resulting from range activities cannot be discounted; however, they are not likely to result in significant short- or long-term impacts.

4.2.2 No Action Alternative

The No Action Alternative would not change the baseline conditions of the preferred location, therefore, no impacts on biological resources would be expected.

4.2.3 DMPTR Redesign Alternative

The DMPTR Redesign alternative would result in the loss of five acres of GCW habitat as a result of construction activities. According to data collected from intensive study areas of Ft. Hood TES habitat, the Redesign Alternative would affect approximately one GCW breeding pair. The GCW breeding pair would be displaced, and would likely relocate to other habitat areas. At this time, the installation is in the process of consulting with the USFWS on a pre-conditional Biological Assessment that include the five acres of TES habitat the Preferred Alternative will affect. If USFWS concurs with the recommendations of the

installation, no mitigation costs are expected. Therefore, the current status of the TES habitat in the preferred location would not change.

4.2.4 Mitigation Measures

The installation has an extensive, proactive Endangered Species Management Plan that surveys for species of concern and researches methods to help existing populations remain viable. To minimize impacts on TES, the majority of new construction (targetry pits) would occur outside the habitat areas. Existing trails and targetry pits would be reused and communications trenching would follow existing trails to the maximum extent possible. Construction that occurs in habitat areas (and clearing of the five acres of TES habitat) would occur between August and February in order to avoid the TES breeding season. Construction outside the habitat areas would proceed without this seasonal restriction. To minimize fire hazards, cleared trees would be mulched in place or removed completely from the site.

4.3 Air Resources

4.3.1 Preferred Alternative

The Preferred Alternative would occur in a "covered attainment" area for criteria pollutants and will not create any air emissions that would jeopardize the Federal attainment status of the AQCR or exceed the allowable Prevention of Significant

Deterioration increment for the region. The Preferred Alternative therefore does not require any TCEQ air-permitting action.

The only impacts on air quality would be low levels of fugitive dust that may be expected during the construction phase activities (such as the filling in of a low-lying area) and fugitive dust impacts from training and vehicle operations. Such increases or impacts on ambient air quality would be expected to be short-term and insignificant. No long-term impact to air resources would be expected.

4.3.2 No Action Alternative

Under the No Action Alternative, the baseline conditions would not change, therefore, no impacts would be expected from this alternative.

4.3.3 DMPTR Redesign Alternative

The impacts to air quality resulting from the DMPTR Redesign Alternative would not be significantly different than those of the Preferred Alternative. Although fugitive dust emissions would increase if five acres of hillside were removed, the increase would be temporary and localized; therefore, no significant short-term or long-term impacts are expected.

4.3.4 Mitigation Measures

Mitigation measures would include dust suppression methods to minimize airborne particulate matter during construction activities. Under the Preferred

Alternative, the contractor would be responsible for obtaining and maintaining any air quality permits required during construction. Additionally, all construction equipment would be kept in good operating condition to minimize exhaust emissions. Standard construction practices, including Best Management Practices (BMPs) and Standard Operating Procedures (SOPs) would be used to control fugitive dust during the construction phases of the Preferred Alternative.

4.4 Cultural Resources

4.4.1 Preferred Alternative

Fort Hood assessed the ten known archaeological resources within the project APE. Assessment by Fort Hood personnel determined that the ten resources did not meet criteria for eligibility for listing on the National register of Historic Places. Fort Hood coordinated with the Texas State Historic Preservation Officer (TxSHPO) for a determination that the known archaeological resources were not eligible for listing and that there were no historic properties within the APE. The TxSHPO concurred that nine of the resources were not eligible but that one prehistoric resource required additional excavation work to make such an assessment (41CV565). Copies of the correspondence between Fort Hood and the TxSHPO are included in Appendix A, Agency Correspondence.

4.4.2 No Action Alternative

The No-Action Alternative would cause no impacts to cultural resources.

4.4.3 DMPTR Redesign Alternative

The DMPTR Redesign Alternative would result in similar cultural impacts as with the Preferred Alternative.

4.4.4 Mitigation Measures

One prehistoric resource requires additional excavation work to determine its condition. Since such excavation is considered a major health and safety hazard and this resource is at the very edge of the APE, Fort Hood will protect this resource from damage during the construction of the range modifications and implement and protective measures against possible impacts from using the range.

4.5 Water Resources

4.5.1 Preferred Alternative

Surface Water

Surface water quality is not expected to decline due to the Preferred Alternative. Impervious cover would not be significantly increased as a result of new construction. BMPs would be put into place to limit the amount of runoff or sedimentation into surface water features. No significant short- or long-term impacts are expected as a result of the Preferred Alternative.

Groundwater

Construction activities related to the Preferred Alternative may involve trenching or horizontal drilling. However, the groundwater table is far deeper than such activities normally burrow. Therefore, no significant short- or long-term impacts to groundwater are expected as a result of the Preferred Alternative.

Jurisdictional Waters of the US and Wetlands

The Preferred Alternative involves filling in the drainage feature (gully) identified as jurisdictional waters of the US or constructing a crossing over it. Such activity requires coordination through the Fort Worth District, US Army Corps of Engineers (USACE). USACE will review this project and determine if a Nationwide Permit under Section 404 of the Clean Water Act is applicable. BMPs would protect Brown's Creek during construction to control runoff.

4.5.2 No Action Alternative

The baseline conditions of water resources within the preferred location would not change under the No Action Alternative.

4.5.3 DMPTR Redesign Alternative

The DMPTR Redesign Alternative would not result in any significant impacts different from those resulting from the Preferred Alternative.

4.5.4 Mitigation Measures

The overall area of construction is greater than five acres, therefore a storm water construction general permit would be required through filing of a notice of intent and developing a Storm Water Pollution Prevention Plan. Although sediments have been identified as the major source of problems in Belton Lake and its tributaries, including Brown's Creek, the following mitigation measures would minimize the impact of the Preferred Alternative on water quality. The use of BMPs during construction to minimize or prevent erosion and soil loss would include the placement of sediment control devices along the course prior to any soil disturbance and implementation of secondary containment measures or control devices to control spills. Post-construction seeding, sodding, and landscaping to minimize wind and water erosion would be another BMP.

4.6 Geological Resources

4.6.1 Preferred Alternative

Geology

The Preferred Alternative would not result in significant impacts to the geology of the preferred location.

Soils

The majority of construction for the DMPTR would take place in the existing footprint of the current MPTR. In some cases, targets and lanes would be constructed in new locations instead of utilizing the existing infrastructure. However, this is not considered significant since some current lanes and targets would be removed and not upgraded. The sites of removed infrastructure would be allowed to return to a natural state.

BtC2 soil, the major soil complex of the preferred location, has a moderate to severe erosion hazard. The Preferred Alternative would result in a short-term increase to erosion during the construction phase. Since the majority of the DMPTR construction consists of upgrades to existing structures, this impact is not considered significant or long-term.

Floodplains

The Preferred Alternative would not have an impact on floodplains in the vicinity of the preferred location. Although a low-water crossing would be affected by the Preferred Alternative, floodplains are located outside the BCU MPTR site.

4.6.2 No Action Alternative

No significant impact to geological resources are anticipated as a result of the No Action Alternative as the baseline conditions of the preferred location would change.

4.6.3 DMPTR Redesign Alternative

The DMPTR Redesign Alternative would incur removal of five acres of hillside and would present a greater impact on geological resources than the Preferred Alternative. The hillside removal would create a line-of-sight targetry position and be performed under BMPs. As a result of the removal, underlying bedrock on the hillside would be exposed and some short-term increases in erosion could be expected. However, no development on the exposed bedrock is planned as part of the DMPTR. Therefore, this alternative would be considered neither significant nor long-term, as no net loss of topsoil or other geological resources from the BCMU site is expected. Any resources removed from the hillside would be used as fill in a low-lying area of the range.

4.6.4 Mitigation Measures

Mitigation measures listed in Section 4.4.6 would be also applicable to geological resources.

4.7 Noise

4.7.1 Preferred Alternative

Noise levels during construction could decrease from baseline levels as live-fire training exercises would be suspended. This decrease would represent a temporary, insignificant benefit. There are no sensitive noise receptors near the area of the Preferred Alternative that would be affected by construction noise.

Any construction required in TES habitat would be scheduled so as to avoid the breeding season (March - July). The preferred location is near the center of the installation within Zone II (65-75 L_{dn}). The noise contours from the Fort Hood Installation Compatible Use Zone Noise Study of 1990 would not be affected.

4.7.2 No Action Alternative

Under the No Action Alternative, baseline noise levels would not be affected and no impacts are expected. .

4.7.3 DMPTR Redesign Alternative

There would be no significant difference in the noise resulting from either the DMPTR Redesign Alternative or the Preferred Alternative. Construction and operations activities would approximate each other.

4.7.4 Mitigation Measures

Hearing protection would be worn by workers exposed to a noise level greater than 90 dBA (A-weighted decibels) averaged over an 8-hour day during the construction phase. Based on studies of different construction activities, projected noise emissions at 50 feet from the center of a construction site would be approximately 90 dBA. On-site personnel working in close proximity to heavy machinery would also wear earplugs. Construction vehicles would also be equipped with mufflers. Training activities occurring on the range are not expected to impact TES. However, any activities (training or construction) that

occur in designated TES habitat areas must be coordinated with the DPW Environmental office. During the breeding seasons of the GCW and BCV, access to TES habitat areas is restricted.

4.8 Cumulative Impacts

Cumulative impacts are defined as the incremental impacts of multiple past, present and foreseeable future actions with individually minor, but collectively significant effects. Cumulative impacts can be concisely defined as the total effect of multiple land uses and developments, including their interrelationships, on the environment.

The DMPTR would be constructed in conjunction with the DMPRC at Jack Mountain and Clabber Creek ranges. Together, they would form a digital training range complex suitable for CALFEX and joint-use exercises. These types of exercises exceed the capability of the individual ranges. Therefore, an evaluation of cumulative impacts resulting from the Preferred Alternative must also take the impacts of the DMPRC into consideration. The DMPRC will be constructed south of the DMPTR.

Another factor to take into consideration is that the range areas are outleased for grazing and the effects of grazing would be cumulative with the Preferred Alternative. The outlease program for the post has been modified recently, and an EA and Finding of No Significant Impact (FNSI) for the grazing program has

been prepared. Since the creation of Fort Hood in 1942, the ecological quality of the training areas has deteriorated over time. Military training activities and grazing pressures have tended to result in the loss of browse and cover. The grasslands have lost perennial grasses to an invasion of broomweed and other annual plants. Woodland mesas and stream terraces have developed into Ashe juniper monostands. A reversal of the successional sequence is evident as climax species are being replaced by early successional species. Vegetation on intensely utilized training areas has changed from a perennial climax community to a less desirable invasive plant community consisting of early successional perennials and annual plants. Intensive training with tracked vehicles annually denudes up to 60% of these areas. This results in perennial vegetation being destroyed and invasive species being promoted. The root systems of annuals are much less intensive than those of perennials, which results in inadequate ground cover for soil erosion control.

To help prevent and mitigate such changes over time, Fort Hood has implemented an INRMP, ICRMP and associated plans and programs. These programs and plans are reviewed, assessed, and implemented by and under the direction of the Environmental Division, Directorate of Public Works at Fort Hood.

Beyond the implementation of such plans, it is notable that Fort Hood is comprised of approximately 217,000 acres. Of that total, 61,000 (28%) acres are contained within the Impact/Live Fire Area (including the Permanently Dudded

Area), which is undeveloped for residential, commercial, or industrial use. Due to the extent of undeveloped acreage within the Impact Area of Fort Hood compared to the acreage required for the Preferred Alternative, the cumulative impacts are expected to be insignificant.

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5.0 CONCLUSION

The conclusion of this Environmental Assessment is that the Preferred Alternative would not result in any significant environmental impacts. A Finding of No Significant Impact (FNSI) is recommended for the Preferred Alternative, and an Environmental Impact Statement is not required. This Environmental Assessment and supporting documentation has been prepared in accordance with the National Environmental Policy Act of 1969, 42 USC 4321 *et seq.*, and as implemented by Executive Orders 11514 and 119991, Environmental Analysis of Army Actions, 32 CFR Part 651, and the Council on Environmental Quality regulations in 40 CFR Part 6.

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6.0 PERSONS AND AGENCIES CONTACTED

6.1 Individuals Contacted

Buchanan, Tim – Soil Conservation Scientist, Natural Resources Management Branch, Environmental Division, Directorate of Public Works, Fort Hood, Texas, Tim.Buchanan@us.army.mil

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6.2 Agencies To Be Contacted

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2450 Stanley Rd, Ste. 101
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Texas Commission on Environmental Quality
Austin, Texas

Environmental Protection Agency, Region VI
Austin, Texas

Mr. Lawrence Oaks
State Historic Preservation Officer
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711-2276

Ms. Kathy Boydston
Wildlife Habitat Assessment Program
Wildlife Division
Texas Parks and Wildlife
4200 Smith School Road
Austin, TX 78744-3291

Environmental Planning Support Branch
Training Support Division
US Army Environmental Center
Aberdeen Proving Ground, MD 21010

Omar Bocanegra
Wildlife Biologist
US Fish and Wildlife Service
Ecological Services
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711 Stadium Drive, Suite 252
Arlington, TX 76011

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7.0 ACRONYMS

AAR	After Action Review
APE	Area of Potential Effect
BCV	Black-capped Vireo
BCMU	Brown's Creek Multiuse
BFV	Bradley Fighting Vehicle
BMP	Best Management Practice
BtC2	Brackett-Topsey Association
CALFEX	Combined Arms Life Fire Exercise
CEQ	Council on Environmental Quality
CMPRC	Crittenberger Multipurpose Range Complex
DMPRC	Digital Multipurpose Range Complex
DMPTR	Digital Multipurpose Training Range
DPW	Directorate of Public Works
EA	Environmental Assessment
ErB	Eckrant-Rock Outcrop Complex
ESA	Endangered Species Act
GCW	Golden-cheeked Warbler
KrB	Krum Silty Clay
LF	Live Fire Area
MPTR	Multi-purpose Training Range
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NPDES	National Pollution Discharge Elimination System
ReF	Real-Rock Outcrop Complex
ROC	Range Operations Center
SAT	Stationary Armor Targets
SIT	Stationary Infantry Targets
SLMU	Sugarloaf Multiuse
SOP	Standard Operating Procedure
TA	Training Area
TC	Training Circular
TCEQ	Texas Commission on Environmental Quality
TES	Threatened and Endangered Species
USACE	US Army Corps of Engineers
USFWS	US Fish and Wildlife Service
UXO	Unexploded Ordnance

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8.0 PREPARER

Ramos, Roberto I., R.E.P. Senior Consultant, Booz Allen Hamilton, Inc. NEPA Support Staff, Environmental Planning Support Branch, Training Support Division, US Army Environmental Center, Aberdeen Proving Ground, MD. MS - Environmental Science, The University of Texas at San Antonio, BS – Biology (Molecular), Texas A&M University – Kingsville. Four years experience.

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9.0 REFERENCES

Bass, Ronald E. and Albert I. Herson. Mastering NEPA: A Step-by-Step-Approach. Solano Press Books, 1998.

Environmental Assessment for the Fort Hood Digital Range Upgrade at Fort Hood, Texas. Wendy Lopez & Associates, Inc., August 2001.

Environmental Assessment for Grazing Outlease at Fort Hood, Texas. Science Applications International Corporation, January 2001.

Final Environmental Assessment for Proposed Construction of Urban Assault Course, Fort Hood, Texas. Ecological Communications Corporation, March 2004.

Installation Compatible Use Zone Noise Study - Fort Hood 1990. Accentech Incorporated, 1990.

Integrated Natural Resource Management Plan. Natural Resources Branch, Environmental Division, Directorate of Public Works, Fort Hood, 2000.

Kleinbach, Karl. Brown's Creek Range Archeological Site Assessments at Fort Hood, Texas. Center for the Management of Military Lands, Colorado State University, June 22, 2004.

Soil Survey of Coryell County, Texas. US Department of Agriculture, Soil Conservation Service, in cooperation with Texas Agricultural Experiment Station and United States Department of the Army, Fort Hood, Texas, 1985.

Supplemental Environmental Assessment for Grazing Outlease at Fort Hood, Texas. Science Applications International Corporation, December, 2003.

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APPENDIX A: AGENCY CORRESPONDENCE

The EA and Draft Finding of No Significant Impact will be distributed to appropriate regulatory bodies both on and off the installation for review and comment. These agencies included the Environmental Protection Agency, Region 6; U.S. Fish and Wildlife Service (USFWS), and Texas Parks and Wildlife Department (TPWD). The Fort Hood DPW will publish a public notice in local newspapers to inform the public of the findings of the EA and to invite comment. The public comment period for the EA is thirty days from the publication of the Notice of Availability of the draft FNSI and EA in the *Killeen Daily Herald*.

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APPENDIX B: FIGURES

Figure 1 – Overview of Fort Hood in Texas, Section 1.3

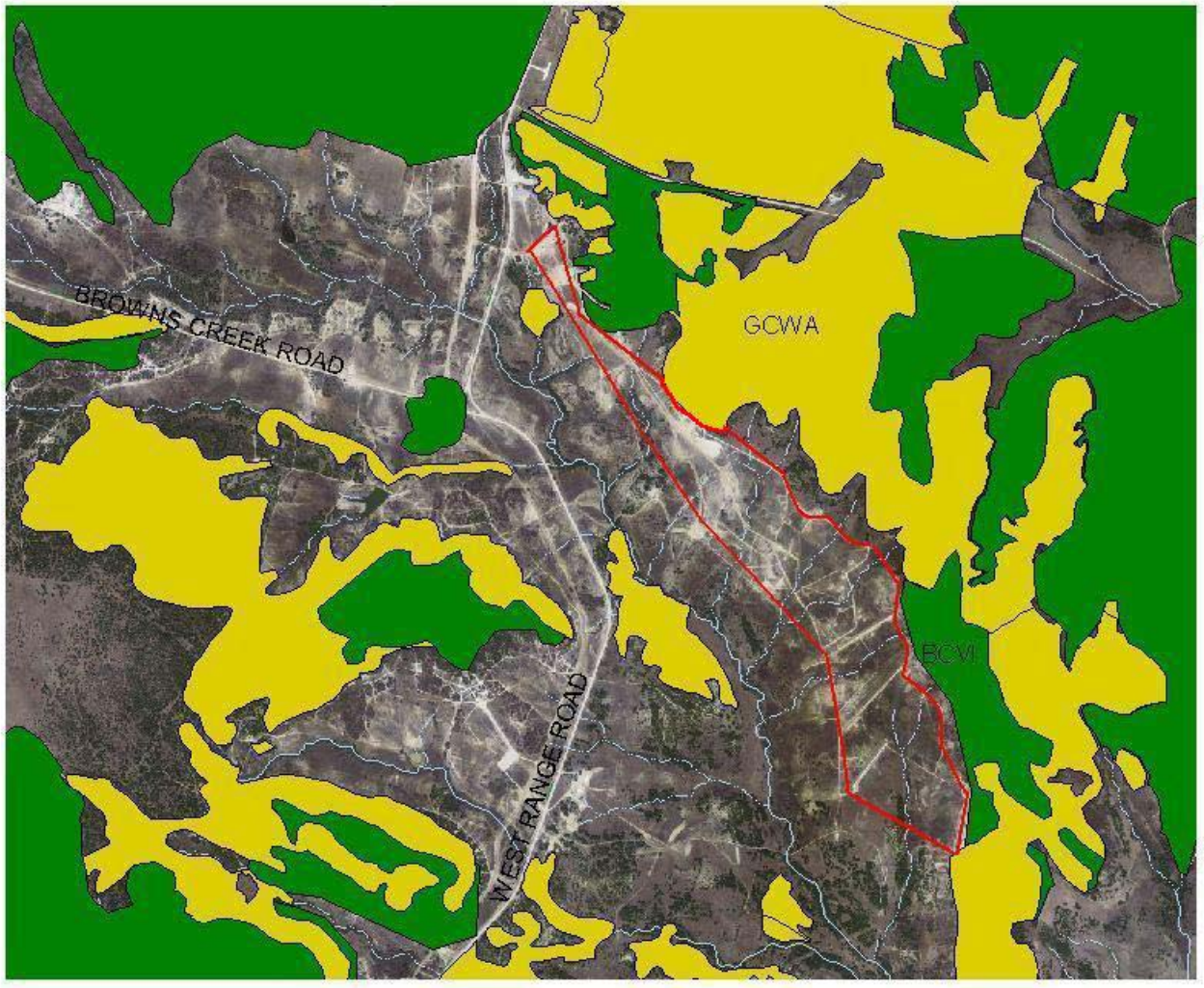


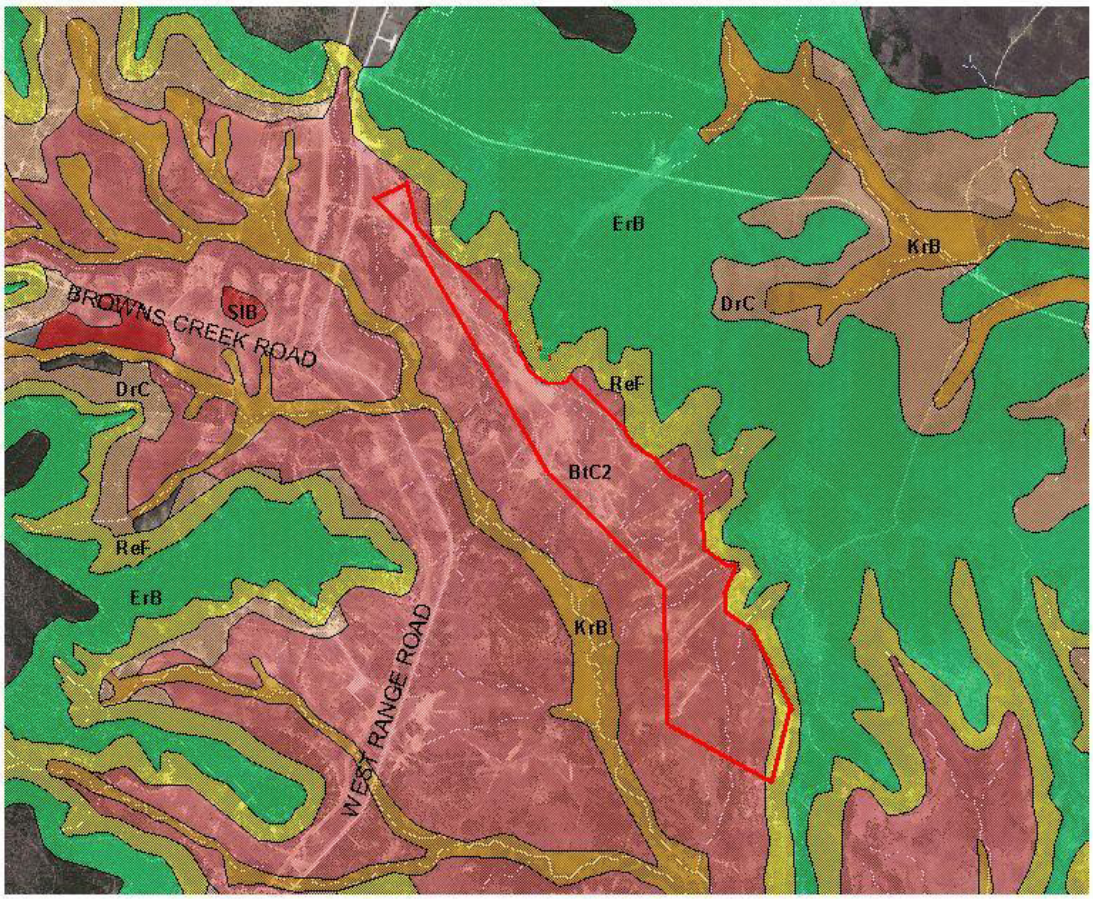
Figure 2 - Threatened and Endangered Species Habitat at BCMU Site

BCVI – Black-capped vireo Habitat

GCWA – Golden-cheeked warbler Habitat

Red Outline - Estimated Overlay of DMPTR at BCMU

Figure 3 - Soil Profiles at BCMU Site



BtC2 - Brackett-Topsey association

ErB - Eckrant-Rock outcrop complex

ReF - Real-Rock outcrop complex

Red Outline - Estimated Overlay of DMPTR at BCMU

Figure 4 - Floodplains in BCMU Site

Peach - Floodplains at BCMU

Red Outline - Estimated Overlay of DMPTR at BCMU

Figure 5 – Proposed DMPTR Vehicle Installation Dock

Figure 6 - Battle Position 1, BCMU MPTR

Figure 7 - Battle Position 1 Downrange View, BCMU MPTR

Figure 8 - Golden-cheeked Warbler Habitat, BCMU MPTR

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APPENDIX C: TABLES

Table 1: Federal and State Air Pollutant Standards[7]

Air Pollutant	Averaging Time	National Standards[7] Primary[1] (µg/m^3)	National Standards[7] Secondary[2] (µg/m^3)	Texas Standard (µg/m^3)
Carbon Monoxide (CO)	1-Hour	40,000	***	***
	8-Hour	10,000	***	***
Inhalable Particulate Matter (PM_{10})	24-Hour	150	***	***
	AAM[3]	50	***	***
Lead (Pb)	3-Month Calendar Quarter	1.5	***	***
Nitrogen Dioxide (NO_2)	AAM[3]	100	100	***
Ozone (O_3)	1-Hour	235	235	***
Sulfur Dioxide (SO_2)	30-Minute	***	***	1,021
	3-Hour	***	1,300	***
	24-Hour	365	***	***
	AAM[3]	80	***	***
Total Suspended Particulate Matter (TSP)	1-Hour	***	***	400
	3-Hour	***	***	200
Hydrogen Sulfide (H_2S)	30-Minute	***	***	0.08 ppm[4] 0.12ppm[5]
Sulfuric Acid (H_2SO_4)	1-Hour	***	***	50
	24-Hour	***	***	15

Air Pollutant	Averaging Time	National Standards* Primary[1] (µg/m^3)	National Standards* Secondary[2] (µg/m^3)	Texas Standard (µg/m^3)
Inorganic Fluoride Compounds (HF)	3-Hour	***	***	4.9
	12-Hour	***	***	3.68
	24-Hour	***	***	2.86
	7-Day	***	***	1.63
	30-Day	***	***	0.82
Beryllium (Be)	24-Hour	***	***	0.01
Other Hazardous and Odorous 30-min Pollutants	AAM[3]	***	***	[6]

[1] National Primary Standards establish the level of air quality necessary to protect the public health from any known or anticipated effects of a pollutant, allowing a margin of safety to protect sensitive members of the population.

[2] National Secondary Standards establish the level of air quality necessary to protect the public welfare by preventing injury to agricultural crops and livestock, deterioration of materials and property, and adverse impact on the environment.

[3] Annual Arithmetic Mean.

[4] If a residential area, commercial property, or business are affected.

[5] If a property used for other than residential, recreational, business, or commercial purposes is affected.

[6] Not defined in a specific regulation but determined on a case-by-case basis by TCEQ Effects Evaluation Section.

[7] Adapted from 40 CFR Part 50 and TCEQ regulations.

Table 2: Soil Profiles in Brown's Creek MPTR Site

Soil Profiles	Drainage	Permeability	Available Water Capacity	Runoff	Hazard of Erosion	Root Zone
BrackettTopsey association (BtC2)	Well-drained	Moderately Slow	Medium	Medium	Severe	Deep
Eckrant-Rock outcrop complex (ErB)	Well-drained	Moderately Slow	Very Low	Rapid	Slight	Restricted
Real-Rock outcrop complex (ReF)	Well-drained	Moderate	Very Low	Very Rapid	Severe	Shallow

Table 3: Summary of Proposed Action Impacts

Area of Impact	Preferred Alternative		No Action Alternative		DMPTR Redesign Alternative	
	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term
Biological Resources	I	I	N	N	I	I
TES	I	I	N	N	I	I
Air Resources	I	I	N	N	I	I
Cultural Resources	I	I	N	N	I	I
Water Resources	I	I	N	N	I	I
Surface Water	I	I	N	N	I	I
Ground Water	I	I	N	N	I	I
Waters of the US and Wetlands	I	I	N	N	N	N
Geological Resources	I	I	N	N	I	I
Soils	I	I	N	N	I	I
Floodplains	I	I	N	N	N	N
Noise	I	I	N	N	I	I

B - Beneficial: Impact would be favorable, producing an overall benefit.
I - Insignificant: Impact would result in little or no measurable effect to the existing environment and cannot be easily detected.
M - Moderate: Impact would be easy to detect, but does not meet the criteria to be designated as significant.
N - No Impact
S - Significant: Potential impact meeting significance criteria and merits concern.